Executive Overview

U.S. Network Services Markets

1989 - 1994

INPUT®

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To Our Clients:

This Summary is an excerpt from a full research report, *U.S. Network Services Markets, 1989 - 1994*, issued as part of INPUT's Information Systems Program (ISP). A complete description of the program is provided at the end of this Executive Overview.

If you have questions or comments about this report, please call INPUT at (415) 961-3300 and ask for the Client Hotline.

Abstract

This report is the 1989 analysis and forecast for the network services segment of the U.S. market for information services.

The network services forecast is segmented into (1) network applications and (2) electronic information services categories. Network applications is segmented into value-added networks, electronic data interchange, electronic mail, and other application services. Electronic information services is segmented into on-line data bases and news services.

The report provides forecasts for industry-specific and cross-industry expenditures as well as describing the large, fast-growing vendors.

The report contains 220 pages and 45 exhibits.

Overview Contents

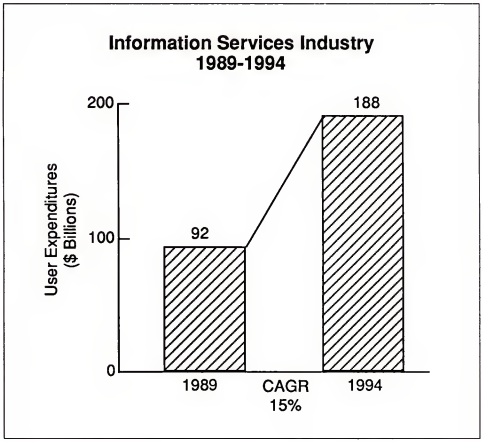
Executive Overview

A

Overview

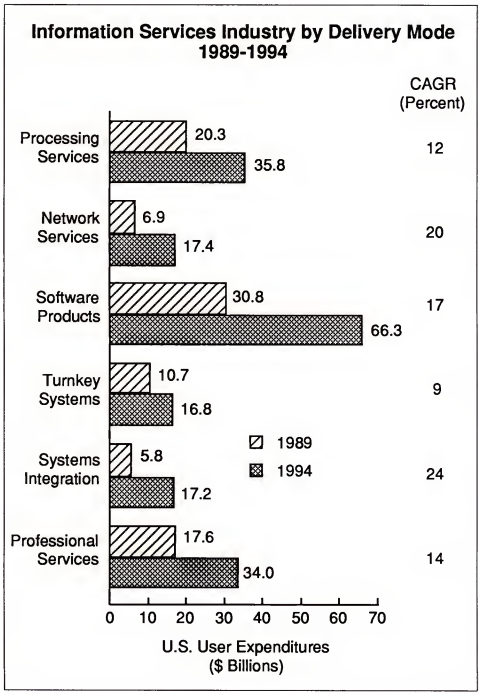
The network services delivery mode is one of the six delivery modes that make up the information services industry. As shown in Exhibit II-1, the information services market will grow at a compound annual growth rate (CAGR) of 15% from 1989 to 1994.

EXHIBIT II-1



The network services market used to be considered part of the processing services market; INPUT separated the two modes in 1987 because of the quickly increasing size and unique characteristics of network services. Network services is the mode with the second-fastest growth rate through 1994, as shown in Exhibit II-2. Its rapid growth reflects the continuing relative shift of importance from processing to communications in the information systems (IS) industry.

EXHIBIT II-2



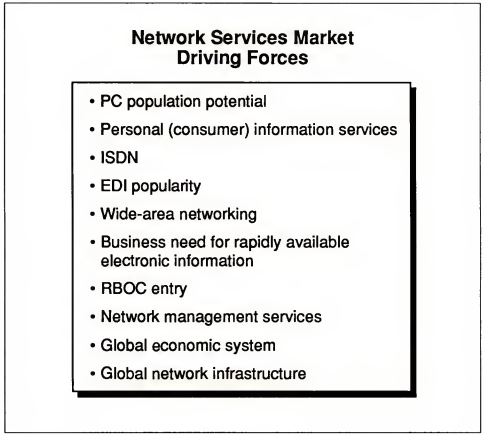
The network services market is composed of relatively new segments, such as electronic data interchange and network management services, as well as older segments like value-added network (VAN) services. It also includes the strongly growing electronic information services (on-line data base) market.

B
Network Services

1. Driving Forces

There are numerous and varied reasons for the dynamic growth of this market, as is shown in Exhibit II-3.

EXHIBIT II-3



A primary driving force in network services is the sheer number of personal computers in business. The potential demand for these PCs to link into networks and access on-line information sources and services is still largely untapped. For example, Compusource, a leading supplier of network services, has only 500,000 subscribers; Dow Jones has 250,000 subscribers to its news and information retrieval services. The vast majority (over 90%) of PCs are still used on a standalone or local network basis only; network-based services are used by only a small percentage.

The 1990s will be the decade for the growth of personal (consumer) information services. Many professionals (analysts, engineers, etc.) use electronic information services now, but often through paraprofessionals or other staff members. In the 1990s, professionals will use these services directly wherever they are—at home, travelling, or at work.

Integrated Services Data Networks (ISDN) will arrive in the 1990s from the RBOCs and others that are eager to share in the network services market. ISDN will provide integrated voice/data networks that facilitate transmission of information and may accelerate multimode communications activity. Bellcore has identified 118 applications available now to run under an ISDN environment. The bulk are voice-oriented, but some relate to packet-switched interfaces and services. The latter present an opportunity for network services vendors to adapt their VANs to include such capabilities. It is not fully clear how information services vendors can share in the opportunity, but ISDN is a trend to be monitored.

Electronic data interchange (EDI) is a fast-growing market segment that enables businesses to pass data to one another on an electronic, application-to-application basis. The business advantages available to organizations using this timely communications method have created high demand for EDI.

Wide-area networking is the logical extension of local-area networks (LANs). Wide-area networks will tie together LANs in tactical communications systems within an organization and between separate organizations. Wide-area networks will promote network services growth in the 1990s.

Businesses, to remain competitive, are increasingly in need of immediate information, which can often be best accessed through electronic data bases. Individuals within organizations need personal information quickly; this is the reason for the rapid growth of package delivery companies (i.e., Federal Express) and fax.

The Regional Bell Operating Companies (RBOCs) and Bell Operating Companies (BOCs) are eager to enter the network services market. Although they are currently restricted by Judge Greene's rulings and cannot provide the actual content of data bases, they can provide networks and gateways, facilitate such access, and move aggressively into these areas during the 1990s. A relaxation of the RBOC legal restrictions would certainly lead to a more aggressive competitive posture from the RBOCs and a rapid expansion of the market.

The complexity of communications networks is increasing rapidly. Few organizations possess the knowledge to operate and maintain these networks by themselves. Business opportunities exist in providing

network management skills and control in a variety of ways, such as remote network management services, software, and professional consulting services.

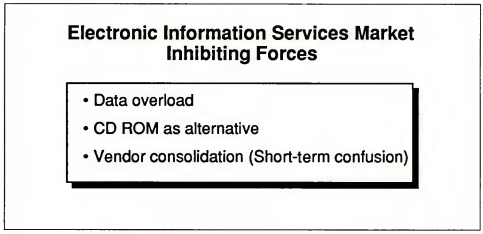
The global economic system is a significant contributor to network services growth. As more business transactions become internationally oriented, a network services capability to support these transactions and their underlying relationships becomes more crucial.

Finally, the development of a global network communications infrastructure in the 1990s will itself stimulate demand for such capabilities. The capacity for rapid transmission of data, voice, and images across continents will emerge in the mid-1990s as a powerful impetus for person-to-person and business-to-business use of such facilities.

2. Inhibiting Forces

Despite such an optimistic outlook, there are some inhibiting forces, shown in Exhibit II-4.

EXHIBIT II-4



An unanswered question is whether the consumer/user may begin to suffer from "data overload." How much information can one user require and/or absorb? Will the 3,300 U.S.-based data bases overwhelm those who need information?

With the increasing capability of Compact Disk Read-Only Memory devices (CD ROMs) an alternative data base delivery mode appears, threatening the position of on-line data base vendors. Large data bases can be placed on a CD ROM disk and shipped directly to any PC user with a CD ROM drive. This will inhibit data base services growth, as users gravitate to this convenient form of data access.

In fact, many data base vendors are offering CD ROM delivery to their clients in order to test it as a defensive strategy to protect their client base, and as an offensive strategy to attract new clients.

Use of optical storage systems is now at the same stage of development as was use of personal computers 10 years ago. With the prices of technology falling sharply, functionality improving rapidly, and useable software beginning to emerge, the stage is set for a dramatic expansion in the use of these systems.

INPUT predicts that all nonvolatile data bases will move to local optical storage within the next five years (the analogy with time sharing and personal computers is obvious). Many data bases will coexist in network services and optical storage. A good current example is the INVESTEXT data base. Historic information is available cheaply and easily through local optical storage access, while the latest information requires access through the network.

3. Market Forecasts

As a result of the above-mentioned forces and other considerations, all the subsegment markets in this delivery mode will grow at rates above the overall information services industry pace of 15%, as shown in Exhibit II-5.

4. Competitive Environment

Vendor consolidation is likely; development and maintenance of large data bases is labor-intensive and economies of scale are important. The acquisition of Dialog from Lockheed by Knight-Ridder, and the possible CSC/Equifax credit data base combination, are examples of this trend.

Concentration within the network services market is reflected in the fact that the top 20 vendors account for over 75% of the industry. Entrenched vendors seem likely to retain their positions, barring acquisition.

Leaders in this market are primarily data base vendors. Equifax, TRW, Quotron, McGraw-Hill, and Mead Data Central all derive the majority of their revenues from data base services.

The outlook is bright for vendors that can merge (1) the network capabilities rapidly evolving into a global communications structure, and (2) the marketing of timely information over that structure. If any single trend stands out, it is the rapid growth of the world's network infrastructure during this period. This linkage will stimulate pent-up demand for information and communications-oriented services, functions, and capabilities that are certain to follow.

EXHIBIT II-5

Network Services Markets—1989-1994

	User Expenditures ($ Millions)		CAGR 1989-1994 (Percent)
	1989	1994	
Network Applications			
Value-Added Networks	773	1,778	18
EDI	282	1,350	37
EII (Electronic Mail)	462	1,145	20
Other*	-	-	-
Total	1,516	4,263	23
Electronic Information Services			
Data Bases	4,897	11,476	19
News	560	1,710	25
Total	5,457	13,168	19
Total Network Services	6,973	17,448	20

* Included in value-added networks

CAGR = Compound Annual Growth Rate

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Exhibits

Exhibits (Continued)

Information Systems Program

CRITICAL ROLE OF INFORMATION SYSTEMS

Information systems will play a critical role in an organization's competitive position, often making the difference between profit and loss. The Information Systems (IS) organization must respond to this challenge as well as meet demands for quality, fast response, and controlled spending.

INPUT's Information Systems Program has been operated for 10 years to provide IS managers and planners with industry intelligence to assist them in addressing these issues. This year's program emphasizes the analysis of external sources of solutions.

REPORT SERIES

Information Systems Management in the 1990s
This report analyzes technological development, business factors, and other issues that will significantly affect Information Systems management in the 1990s. Changes in expenditure patterns and organizational responsibilities are examined, particularly with reference to the management of technology deployment.

Data Base Systems Developments
Experiences with, and plans for, the use of relational and distributed DBMS are evaluated in terms of applications use, functions affected, organization units using them, and results of their use.

Application Solutions Buying Process
Approaches being used by buyers to identify, select, and acquire applications solutions (software products, turnkey systems, processing services, etc.) are researched for this report.

Customer Service Market Developments
This report examines one of the areas of most significant change, that of equipment and software maintenance and support. Trends and expenditure patterns in these functions are presented.

Personal Computer Software Developments, 1989-1994
The impact of networked systems, minicomputers, market saturation, new pricing strategies, and other key factors are analyzed.

UNIX and UNIX-related Product Developments, 1989-1994
The plans of software product developers and major organizations for the use of UNIX are analyzed. Strategies of vendors such as IBM, DEC, Sun Microsystems, and AT&T are presented.

User Requirements for Network Management
This report analyzes user requirements for network management. It considers methods and procedures, tools used and needed, needs for outside services, and major trends in management of digital networks.

Case Studies in Systems Integration
Vendor and user perspectives are presented in this report. Characteristics of success and failure are determined.

Project Management in Systems Integration
The role of project management capabilities in systems integration contracts is examined in this report. The role of project management technology (proprietary and public) is analyzed.

Information Services Developments, 1989-1994
This report examines changes in each information service over this period: applications software products, systems software products, turnkey systems, systems integration, professional services, processing services, and network services.

Acquisitions in the Information Services Industry
This report predicts the impact of acquisitions on the industry over the next 5 years. It examines the acquirors' objectives and specific programs, and the reasons acquired companies were acquired.

VENDOR INFORMATION

You have access to information in INPUT's files on over 4,000 information services vendors in U.S., Europe, and elsewhere. Hundreds of the most significant companies are profiled. Most of these companies are 'hidden' vendors—private companies or divisions of large companies.

You may select from the profiles that have been produced: use the "Hotline" service to get information when you need it.

CLIENT SUPPORT

Access to INPUT Consultants
Clients receive continuous support from INPUT's consultants and executives. Call them for reactions and opinions.

"Hotline" Inquiry Service
The "Hotline" Inquiry Service provides fulfillment of 'short-term' research needs (requiring less than two hours) as well as clarification/amplification of report and presentation data.

On-Site Visit
An INPUT consultant presents research results and industry analyses at your site. Your issues and interests are discussed together with industry trends.

Client Conference
This annual conference enables INPUT's clients to be updated on key strategic industry trends and developments, as well as meet senior staff from other INPUT clients. Attendance at this conference is available at a reduced fee for full subscribers.

RELATED SERVICES

- Custom Research and Consulting projects analyze IS opportunities, user needs, user satisfaction, competitive environment, acquisition targets, etc.
- Consultant Presentations—INPUT's consultants are available to provide presentations for planning meetings, user groups, or other functions.

PROGRAM DESCRIPTION

REPORT SERIES

- Information Systems Management in the 1990s
- Data Base Systems Developments
- Application Solutions Buying Process
- Customer Service Market Developments
- Personal Computer Software Developments, 1989-1994
- UNIX and UNIX-related Product Developments, 1989-1994
- User Requirements for Network Management
- Case Studies in Systems Integration
- Project Management in Systems Integration
- Information Services Developments, 1989-1994
- Acquisitions in the Information Services Industry

VENDOR INFORMATION

- Company Profiles
- Access to 4,000 Vendor Files
- Inquiry Service

CLIENT SUPPORT

- Access to INPUT Consultants
- "Hotline" Inquiry Service
- On-Site Visit
- Client Conference